

REMARKS

In the pending action, claims 7-12 and 14-21 have been rejected under 35 U.S.C §103(a) as obvious over Bosch (German Patent No. DE 42 02 279) in view of Ashby et al, (U.S. Patent No. 4,396,511).

Independent claim 7 recites, *inter alia*, a method for producing a rim hole including forming, against a working edge of a fixed matrix, an oblong break away portion in a second planar workpiece and forming an oblong rim into a single layer flange engageable with a bottom surface of the second planar workpiece. Independent claims 12 and 17 recite, *inter alia*, a method for producing a rim hole including forming or punching a rim hole with round or oblong punch in cooperation with a corresponding matrix to provide an annular or oblong break away and an annular rim or a single layer oblong rim. In other words, each of the disclosed methods produces a rim hole during *a single-feed step* by translating a punch relative to a fixed matrix to form an oblong or annular break away, a similarly shaped rim, and a single layer flange engaging the second planar workpiece around the hole. None of the cited reference suggests or discloses, at any level, such a method, much less one capable of forming a rim hole having an oblong shape.

The method of Bosch does not disclose forming a break away of any kind and certainly not a break away formed when an additional piece of material of the second planar workpiece is broken out during the single-feed step translation of the punch relative to the fixed matrix. Instead, Bosch discloses a multiple step forming process wherein a larger hold is formed in the second workpiece during the initial step (see FIG. 5), and then a rim hole is formed during a *subsequent* step. Bosch does not disclose that a break away could be formed in the second planar workpiece at any time, much less during the initial step that forms the larger hole in the second planar workpiece. Furthermore, Bosch does not disclose forming an oblong hole of any type, much less an oblong rim as recited by the claims 7 and 17.

Ashby et al. adds nothing to the teachings of Bosch. Specifically, Ashby et al. does not suggest or disclose producing a break away when an additional piece of material of the second planar workpiece is broken out during the single-feed step translation of the punch relative to the fixed matrix. Ashby et al. discloses a simple two-step punching and forming operation wherein a plug or punch sized portion of both workpieces is broken out when the cutting surface of a punch is cleanly driven therethrough, and a movable matrix is shifted, in a direction opposing the movement of the punch, to form a two-layer rim around the hole (see FIG. 8). Thus, the hole produced by Ashby et al. only as large as the punch, and a break away is never formed in either of the two planar workpieces. Finally, Ashby et al. does not disclose forming an oblong hole of any type, much less an oblong rim as recited by the claims 7 and 17.

Because neither Bosch nor Ashby et al. teach or suggest all of the claim limitations set forth in claims 7-12 and 14-21, they cannot be the basis for a *prima facie* case of obviousness¹. As discussed above, neither reference suggests or discloses forming an annular or oblong break away much less an oblong rim hole. In fact, Bosch requires an additional off-line or preliminary step to provide a larger hole thereby increasing the processing time and overall cost of any rim hole produced. On the other hand, Ashby et al. simply uses the original punch-sized hole throughout the process and not a break away, thereby reducing the available amount of rim material and, in turn, reducing the strength of the entire rim hole structure.

¹ To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

In addition, none of the cited references even recognizes the importance or desirability of forming a rim hole having an oblong shape to prevent the first and second planar workpieces for rotating relative to each other. Thus, none of the references taken alone or in combination derive the efficiency, strength and stability benefits of a rim hole produced with a break away and/or an oblong shape as realized by the claims at issue. For these reasons, independent claims 7, 12 and 17 cannot be rendered obvious in light of Bosch, either alone or in combination with Ashby et al.

Finally, claim 13 has been rejected as obvious over Bosch and Ashby et al., and further in view of Speller, Sr. (U.S. Patent No. 5,042,137). Speller, Sr. adds nothing to Bosch or Ashby et al. Speller, Sr. does not suggest or disclose producing rim holes of any kind, much less a rim hole formed with an annular or oblong break away and/or an oblong final shape. Speller, Sr. simply discloses a dimpling and riveting method and apparatus having a round penetration opening formed using a circular drill and a rivet 70 positioned and deformed within the penetration hole to secure the first and second workpieces together. Because the process disclosed in Speller, Sr. provides for joining the first and second planar workpieces together using a deformed rivet, no break away or rim of any shape is formed or even necessary to join the workpieces. Thus, the cited combination does not establish a *prima facie* case of obviousness because Speller, Sr. does not disclose a rim hole, much less the missing limitation of providing a break away in the second planar workpiece during the process of forming a rim hole. For this reasons independent claim 12 and dependent claim 13 cannot be rendered obvious in light of Bosch in view of Ashby et al. and further in view of Speller, Sr.

In light of the following remarks applicant respectfully submits that the above-identified application is in condition for allowance. Consideration and allowance of claims 7-21 is hereby respectfully solicited.

Respectfully submitted for,

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